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AMENDMENTS TO THE DRAWINGS

FIG. 4 on Sheet 4 of the drawings is amended to add the legend "Semiconductor Die" to the box numbered as 81, and to add the phrase "Controller" to the box numbered 11.

Both of these legends are consistent with the terms used in the specification to describe elements 11 and 81.

Since this amendment is submitted in facsimile form, an original of sheet 4 of the drawings is submitted separately by mail. The new sheet 4 of the drawings is amended as stated herein and has the legend "Replacement Sheet" in the top margin.

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REMARKS

The allowance of claims 9, 11-16, and 18-20 is noted.

Claims 1-9, 11-16, and 18-20 remain in the application.  
Claims 6 and 7 are amended to correct a spelling error.

Clarification of allowed claims:

There is an apparent inconsistency in the Office Action between the claims that were identified as allowed on the Office Action Summary sheet and the claims rejected under 35 USC 102 on page 4 of the Office Action.

During a phone conversation with Examiner Riley on 5/2/2005, it was clarified that the claims allowed as stated in the Office Action Summary was correct and that a typographical error was made in the list of claims rejected under 35 USC 102 on page 4 of the Office Action.

Objection to the drawings:

The drawings were objected to because they failed to label what the element boxes 11, 81, 80, 60, 71, 19, and 22 are.

In the spirit of co-operation and to further the prosecution of the case, sheet 4 of the drawings is amended to add legends to the boxes identified as elements 11 and 81 in FIG. 4. However, Applicants arguments that were submitted in the previous response are still applicable and are incorporated herein by reference regardless of the amendments made to further the prosecution.

Furthermore, the objected to boxes 11, 60, 71, 19, and 22 in FIG. 1 -FIG. 3 are merely dashed lines or dashed boxes that are used to group some of the elements of the figures together. These dashed boxes are used for the convenience of the reader when reading the specification. These groupings all have detailed schematics within the dashed boxes that illustrate an

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embodiment of the functions that are grouped within the dashed boxes. Dashed boxes are routinely used to group together certain schematic symbols to make the text easier to understand for the reader of the application. These dashed boxes generally do not have any legends. It is respectfully submitted that adding legends to 11, 60, 71, 19, and 22 would be more confusing than the current status of the drawings and could interfere with the connection lines and symbols that are within the dashed boxes and could be more confusing than the current status of the drawings.

The Final Office Action indicated that legends may be required by the Examiner when necessary for understanding the drawings. Applicants respectfully submit that legends are not necessary for understanding the drawings of FIG. 1 - FIG. 3 since all of the dashed boxes clearly have at least one detailed embodiment within each dashed box. It is possible that adding legends may be helpful; however, there is a large difference between possibly being helpful and being necessary.

The Final Office Action also indicated that "The whole point of the drawings is to not require a viewer to refer back to the spec to figure out things which can be made apparent by simply viewing labeling". However, viewers routinely read the specification and view the drawings during such reading process in order to understand the object of the drawings. Applicants respectfully submit that is better for a viewer to read the specification to understand the drawings than to attempt to surmise the invention from the drawings alone. Applicants also respectfully submit that figuring out things without looking at the specification is not "the whole point of the drawings", but that the drawings are a portion of the application in conjunction with the specification and that the combination of the two are intended to describe the subject matter to be patented. The drawings are not intended to stand alone without the specification.

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Accordingly, it is respectfully submitted that the objection to the remaining drawings should be withdrawn.

Claim Objections:

Claim 1 was objected to for use of the term "a non-zero period." This objection is respectfully traversed. The Final Office Action states that a rectified signal does not have a period, it does not cycle and at best can only be a pulse. First, it should be noted that claim 1 does not call for a "rectified signal" but calls for a waveform of a rectified sine wave that has a non-zero period. Applicants respectfully submit that a rectified sine wave does have a period and that the waveform of such a signal repeats at a frequency that is determined by that period. Both the frequency and the period are clearly non-zero. Some embodiments of such rectified sine waves are sometimes referred to as half-wave rectified or full-wave rectified. The rectified sine wave is not a substantially dc signal. Applicants refer to plot 66 of FIG. 2 of the application for one example of a rectified sine wave. Consequently, a rectified sine wave does have a period which is non-zero and is cyclic, thus, it is not a dc signal.

Accordingly, it is respectfully submitted that this objection to claim 1 should be withdrawn.

Claims 6 and 7 were objected to for a typographical error. It is believed that the amendment to claims 6 and 7 now overcome this objection. These typographical errors were unintentionally overlooked and not corrected in the previous response.

35 USC 102 Rejection:

Claims 1, 2, and 4-8 were rejected under 35 U.S.C. 102(b) over United States patent number 5,764,460 issued to Perillo et al. This objection is respectfully traversed.

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As addressed hereinbefore, the Examiner stated that the 35 USC 102 rejection of claims 9, 11-12, 18, and 20 were a typographical error, thus, these claims are not addressed in this traversal.

Claim 1 includes a combination of elements that when viewed as a whole are not disclosed by Perillo et al. The combination includes, among other elements, receive an input voltage having a waveform of a rectified sine wave having a non-zero period for each cycle of the waveform, configuring a power supply controller to generate a load current through the load during a portion of a cycle of the input voltage, and configuring the power supply controller to determine an average value of the load current, determine a difference between the average value of the load current and a desired average value, and use the difference and an instantaneous value of the load current to control the instantaneous value of the load current during the portion of the cycle to regulate the average value of the load current over the period to the desired average value of the load current. At least this combination of elements is not disclosed by the Perillo et al reference.

The Perillo et al reference does not receive an input voltage having a rectified sine wave waveform with a non-zero period. The Final Office Action states that a rectified signal does not have a period, it does not cycle and at best can only be a pulse. It should be noted that claim 1 does not call for a rectified signal but calls for a waveform of a rectified sine wave that has a non-zero period. Applicants respectfully submit that a rectified sine wave does have a period and that the waveform of the signal repeats at a frequency that is determined by that period. The dc signal of the Perillo et al reference does not repeat with a non-zero period as required by claim 1.

Further, the protection circuit of the Perillo et al reference is not configured to determine an average value of a load current over the cycle but merely uses an instantaneous

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value of the load current. The Final Office Action refers to the rejection of claims 7 and 8. It should be noted that a resistor divider that forms a voltage that is between two values does not average a load current over a cycle. The resistor divider merely forms an instantaneous voltage at the point of a cycle that is currently applied to the resistor divider. Thus, the resistor divider does not determine an average over a cycle. It is respectfully submitted that the claims are to be examined as a whole and that such examination should include all elements of the claim.

Additionally, the Perillo et al reference does not determine a difference between the average value of the load current and the desired average value and does not use that difference in addition to an instantaneous value of the load current to control the instantaneous value of the load current and certainly does not perform such a function during the portion of the cycle that is defined within claim 1.

In the spirit of examining a claim as a whole, it would be appreciated if it could be identified which portion of the portion of the Perillo et al discloses all of the elements of - determining an average value of a load current over the cycle, determining a difference between the average value of the load current and the desired average value, and using that difference in addition to an instantaneous value of the load current to control the instantaneous value of the load current. At least these elements of claim 1 are not disclosed by the relied on reference.

Perillo et al further do not use such a difference to regulate an average value of the load current over the period to the desired average value of the load current. It is respectfully submitted that when viewed as whole, these elements of claim 1 are not disclosed by the Perillo et al reference. Accordingly, it is respectfully submitted that the relied on reference is deficient in anticipating amended claim 1.

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Claims 2 and 4-8 depend from claim 1 and are believed to be allowable for least the same reasons as amended claim 1.

Regarding claim 4, the Office Action indicates that the Perillo et al regulator will because of time delays overshoot and undershoot the desired value and thus reach a desired average value of current over a defined time period. However, is respectfully submitted that Perillo et al do not control the average value of the load current as required by claims 1 and 4. Perillo et al merely use the instantaneous value of the current through the element referred to as "Power" to determine the point at which the "Power" element is disabled. Thus, it is respectfully submitted that the Perillo et al reference does not disclose these elements of claim 4. It should be noted that inherency may not be established by probabilities or possibilities and the mere fact that a certain thing may result from a given set of circumstances is not sufficient to establish inherency.

Regarding claim 6, the Office Action refers to the Office Action statement of claim 4. As indicated hereinbefore relative to claim 4, it is believed that the Perillo et al reference does not establish an average value of the load current and does not establish an averaged signal that is representative of an average value of load current over the cycle. Accordingly, it is respectfully submitted that the relied on reference cannot anticipate at least these elements of claims 4 and 6.

Claim 7 includes, generate a deviation signal representative of the difference between the averaged signal. The office action refers to an averaged signal between Ra and Rb. However, such is not an average signal that is representative of an average value of the load current over the cycle. The signal referred to in the Office action is merely a voltage that is at a value determined by a resistor divider. It is an instantaneous value at some instantaneous point in the

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cycle and is not an average value of the load current over the cycle as called out in claim 6.

It is respectfully submitted that all the limitations of a claim must be included when examining the claim. To omit the average value of the load current over the cycle as called out in claim 6 and only use the term "average value" in isolation does not follow the practice of including all limitations. Accordingly, it is respectfully submitted that claim 7 can not be anticipated by the relied on reference.

35 USC 103 Rejection:

Claim 3 was rejected under 35 U.S.C. 103 over Perillo et al. This rejection is respectfully traversed.

Claim 3 depends from claim 1, thus, claim 3 includes all the limitations of claim 1 and is believed to be allowable for least the same reasons as claim 1. The deficiencies of the Perillo et al reference relative to claim 1 are explained in the traversal of the 35 USC 102 rejection of claim 1. The addition of the alleged equivalence of a rectified AC input and a DC input from a DC source does not make up for the deficiencies of the Perillo et al reference. Accordingly, it is respectfully submitted that the relied on reference is deficient in making obvious claim 3.



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CONCLUSION

Applicant(s) made an earnest attempt to place this case in condition for allowance. In view of all of the above, it is believed that the claims are allowable, and that the case is now in condition for allowance, which action is earnestly solicited.

Although it is believed that no fees are due for this amendment, the Commissioner is hereby authorized to charge any fees may be required or credit any overpayment to Deposit Account 50-1086.

If there are matters which can be discussed by telephone to further the prosecution of this Application, the Examiner is invited to call the undersigned attorney/agent at the Examiner's convenience.

Respectfully submitted,  
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